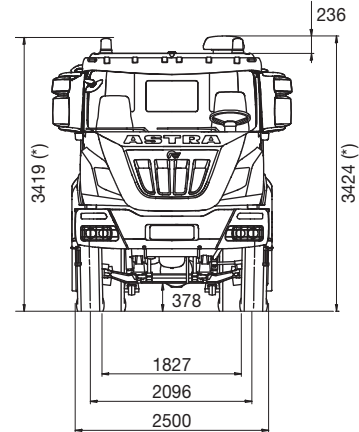
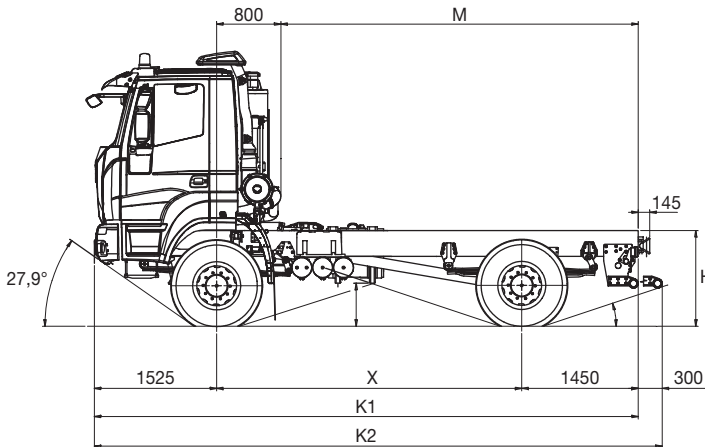


HD9

chassis 4x2
42.38 / 42.42 / 42.44 / 42.48


ON REQUEST
 ■ RHD VERSION


DIMENSIONS (mm) (Tyres 315/80R22.5 156/150K)

X	K1	K2	M (*)	S	H		TURNING DIAMETER	
					unloaded	loaded	between sidewalks	wall to wall
3800	6775	7075	4450	1450	1150	1177	13800	15500
4200	7575	7875	5250	1850			15100	16700
4600	8375	8675	6050	2250			16300	18000
5100	8875	9175	6550	2250			17800	19500

(*) M max.: indicative value to be confirmed by bodybuilder


WEIGHT (kg)

Distribution net weight (*)				Max technical weight				
X	1 st axle	2 nd axle	NET WEIGHT	1 st axle		2 nd axle	Gross Vehicle Weight	Gross Combination Weight
3800	4920	2361	7281	8000	8500 9000 (1)	13000	21000 (2)	55000
4200	4914	2415	7329					
4600	4922	2491	7413					
5100	4959	2509	7468					

(*) Weight including oil, fuel, spare wheel, driver Kg.75

 (1) With tyres 1st axle 385/65R22,5160J or 365/85R20164G. Other tyres available, subject to the Astra technical office approval.

(2) HD9 42.48 only at max speed 50 km/h. Michelin/Pirelli tyres. Higher speeds/loads are allowed with load/speed reductions subject to the Astra Technical office approval.



ENGINES

CURSOR 13 F3B turbo intercooler **euro 3** diesel injection/cycle with electronic unit injection pumps. 6 in-line cylinders. Single block head, four valves per cylinder, light alloy pistons. Total displacement: 12.882 cm³
Bore for stroke: 135 x 150 mm. Water cooling. Viscostatic cooling fan. Dry air filter with safety cartridge. Vertical muffler.

	42.38	42.42	42.44	42.48
Model	IVECO F3B	IVECO F3B	IVECO F3B	IVECO F3B
Max power	280 kW (380 cv)	309 kW (420 cv)	324 kW (440 cv)	353 kW (480 cv)
Corresponding rpm	1900 giri/min			
Max torque	1800 Nm (184 kgm)	1900 Nm (194 kgm)	2100 Nm (214 kgm)	2200 Nm (220 kgm)
Corresponding rpm	1.000-1.440 giri/min			
Turbine	WG Waste Gate		VGT variable geometry	



GEARBOX

Manual gear with servoshift, 16 synchronised forward speeds + 2 reverse.

ZF 16 S 2220 TO: HD9 42.38 / HD9 42.42 / HD9 42.44

ZF 16 S 2520 TO: HD9 42.48

On request:

ZF16 S 2320 TD

		Speed [kph] at maximum power(*)																		
		Gears																		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	RM1	RM2	
ZF16S2320TD	Gear ratios	16.41	13.80	11.28	9.49	7.76	6.53	5.43	4.57	3.59	3.02	2.47	2.08	1.70	1.43	1.19	1.00	15.36	12.92	
	Rear axle ratio	3.793	6.1	7.3	8.9	10.5	12.9	15.3	18.4	21.9	27.9	33.1	40.5	48.1	58.9	70.0	84.1	100.1	6.5	7.7
		4.229	5.5	6.5	8.0	9.5	11.6	13.7	16.5	19.6	25.0	29.7	36.3	43.2	52.8	62.8	75.4	89.8	5.8	6.9
		5.009	4.6	5.5	6.7	8.0	9.8	11.6	14.0	16.6	21.1	25.1	30.7	36.4	44.6	53.0	63.7	75.8	4.9	5.9
		5.558	4.2	4.9	6.1	7.2	8.8	10.5	12.6	14.9	19.0	22.6	27.7	32.8	40.2	47.8	57.4	68.3	4.4	5.3
		6.095	3.8	4.5	5.5	6.6	8.0	9.5	11.5	13.6	17.3	20.6	25.2	29.9	36.6	43.6	52.3	62.3	4.1	4.8
6.588	3.5	4.2	5.1	6.1	7.4	8.8	10.6	12.6	16.1	19.1	23.3	27.7	33.9	40.3	48.4	57.6	3.8	4.5		
ZF 16S2220TO ZF 16S2520TO	Gear ratios	13.80	11.54	9.49	7.93	6.53	5.46	4.57	3.82	3.02	2.53	2.08	1.74	1.43	1.20	1.00	0.84	12.92	10.80	
	Rear axle ratio	3.793	7.3	8.7	10.5	12.6	15.3	18.3	21.9	26.2	33.1	39.6	48.1	57.5	70.0	83.4	100.1	119.1	7.7	9.3
		4.229	6.5	7.8	9.5	11.3	13.7	16.4	19.6	23.5	29.7	35.5	43.2	51.6	62.8	74.8	89.8	106.9	6.9	8.3
		5.009	5.5	6.6	8.0	9.6	11.6	13.9	16.6	19.8	25.1	30.0	36.4	43.6	53.0	63.2	75.8	90.2	5.9	7.0
		5.558	4.9	5.9	7.2	8.6	10.5	12.5	14.9	17.9	22.6	27.0	32.8	39.3	47.8	56.9	68.3	81.3	5.3	6.3
		6.095	4.5	5.4	6.6	7.9	9.5	11.4	13.6	16.3	20.6	24.6	29.9	35.8	43.6	51.9	62.3	74.1	4.8	5.8
6.588	4.2	5.0	6.1	7.3	8.8	10.6	12.6	15.1	19.1	22.8	27.7	33.1	40.3	48.0	57.6	68.6	4.5	5.3		

(*) Max speed 90 km/h. Other speeds available, subject to the Astra technical office approval



P.T.O.

On request:

Gearbox	ZF16S2220TO-ZF16S2520TO	Mx. Torque	Application
P.T.O.	Ratio	Nm	
ZF NH/1b	0,91/1,09:1	1000	For tipping unit pumps, pumps for cranes, ecc.
ZF NH/1c	0,91/1,09:1	1000	For tipping unit pumps, unit pumps for concrete, pumps for cranes, ecc.
ZF NH/4c	1,17/1,40:1	430	For tipping unit pumps, ecc.
ZF N221/10bpl+N353/1c	1,75/2,09:1+0,91/1,09:1	560+600	Double PTO for concrete pumps

Power take off at flywheel (ratio 1,29:1) max available torque 900 Nm for concrete mixers.



CLUTCH

Single dry plate, diameter 17". Pull type engagement with diaphragm spring.

Hydro-pneumatic power steering engagement control, with driven disc wear recovery slave cylinder.

On request: Ceramic clutch 17"



AXLES

Steering, hot moulding in high tensile steel. Wheel stud protection.

REAR

Driving axle with dual reduction, central with bevel gear pair, final in wheel hubs by means of epicyclical assembly.

Lockable differential with pneumatic control from driver's seat.

On request:

Rear-axle ratio 1:3,793

Rear-axle ratio 1:4,229

Rear-axle ratio 1:5,009

Rear-axle ratio 1:5,558

Rear-axle ratio 1:6,095

Rear-axle ratio 1:6,588



SUSPENSIONS

FRONT

Parabolic leaf springs with bushings n° 4 leaves 24x90 mm, with shock absorbers and stabilizer bar.

On request:

Reinforced parabolic springs, n° 5 leaves 24x90 mm.

REAR

Parabolic springs with bushings, n° 4 leaves 24x90 mm, + 1 leaf 50x90 mm, with shock absorbers and stabilizer bar.



CHASSIS

Special steel with high elasticity limit, two flat and parallel side members width 820 mm, C section 320x70x8 mm, cross members riveted to the frame. Steel front bumpers with headlamp protection grids, front manoeuvring hook, rear underrun bar, steel fuel tank capacity 300 litres.

On request:

Rapid attachment for compressed air for tyres 'inflation.

Rear underrun bar in set back position.

Extra long underrun bar for concrete mixer.

Rear manoeuvring hook.

Rear automatic towing hook.

Rubber mudguards on 2nd axle.

Front bumper climbing step.

Side windlass for spare wheel.



PNEUMATIC SYSTEM

Two-cylinder 630 cc compressor, APU (Air Processing Unit) that includes: regulation valve set at 10.3 bar, drier, 4-way safety valve, pressure reduction valve for parking circuit and services. 3 air tanks, capacity 30 litres.

ABS system and EBL (Electronic Brake Limiter).



STEERING

ZF 8098 hydraulic power steering on front axle wheels with variable ratio 1:22.2/1:26.2. Steering rods with self-lubricating joints. Height and inclination mechanically adjustable steering wheel.



TYRES

FRONT: 315/80R22,5 156/150 K Single tubeless

REAR: 315/80R22,5 156/150 K Twin tubeless

Spare wheel on the chassis.

Other Possible combinations:

TYRES	ASSEMBLY	
	FRONT	REAR
12.00 R20 156/150G 315/80 R22.5 156/150K	S	D
385/65 R22.5 160J*	S	
315/80 R22.5 156/150K		D

S single

D double

Other tyres available, subject to the Astra technical office approval.

* Mandatory with 9t front axle load.



BRAKES

Front and rear "duo-duplex" self-adjusting wedge type brakes with automatic play take-up.

Total net braking surface 6.184 cm².

ABS system.

Service brake: Pedal controlled air brake, acting on all wheels.

Solo vehicles, two independent circuits, one for 1st axle, one for 2nd axle.

Towing vehicles, three independent circuits, one for 1st axle, one for 2nd axle and another for the trailer.

Emergency brake: Incorporated in service brake.

Parking brake: Mechanical spring-type with pneumatic control acting on 2nd axle wheels.

IVECO BRAKE TURBO engine brake:

Braking power HD9 380-420 HP 255 kW (347 HP)

Braking power HD9 440-480HP 300kW (408 HP).

On request:

Hydraulic interarder (only for HD9 42.44 and 42.48).

1st axle immobiliser system.

OFF/ROAD button for excluding ABS for speed < 15 kph.



ELECTRICAL SYSTEM

Voltage: 24 V

Alternator generator 90 A - 28 V (2520 W).

Accumulators: 2 in series, 160 Ah.

Starter motor 24 V 5,5 kW.

Mechanically controlled electrical circuit breaker.

Phonic wheels and sensors on 1st and 2nd axle.

1 electrical joint 7-pole (ISO 7638) for trailer ABS (if applicable).

1 electrical joints 15-pole (ISO 12089-4091) for trailer lighting (if applicable).

Electrical provision for bodybuilders.

Provision for diagnostics.

Provision for radio/cb (without speakers)

Glow plug for cold start.

On request:

160 Ah tropicalized accumulators;

170 Ah accumulators;

170 Ah tropicalized accumulators;

220 Ah accumulators;

Reverse alarm;



CAB

White cab built in galvanized pressed steel with hydraulic tilting up to 60°. Cab suspension with 4 helical springs with coaxial shock absorbers and integrated dampers, anti-roll bar and end-of-stroke pads. Tinted electric door windows.

Mechanical rear view mirrors, wide angle mirrors. Internal panels completely washable and fireproof.

Compressed air quick coupling for cab cleaning. 4-speed ventilation and heating system with air recirculation system.

Air suspended 3-way adjustable driver seat with seat belts.

Mechanical passenger seat with seat belts.

On request:

Air conditioning with anti-pollen filter

Cab rear window.

Car radio RDS, CD.

Car radio RDS, CD, MP3 Bluetooth technology.

External sun visor.

Extra colour cab: to be specified in the order.

Heated and electric powered rear view mirrors.

Remote controlled and centralized closing of doors.

Roof hatch.

Rotating lights on top of the cab.

White engine hood with central mask in IC575 colour.



INSTRUMENTATION

Dashboard and ergonomic instrument board contain the function buttons and the identification commands.

Indicator lights: engine oil low pressure, alternator charging low, main beam lights, side lights, engine warm-up, rear fog light, hazard lights, tractor turn indicators, trailer turn indicators (if applicable), rotating lights, cab lifted, axles differential locked, differential lock, front brakes air pressure low, rear brakes air pressure low, trailer brakes air pressure low (if applicable), parking brake engaged, splitter (reduction on), slow speeds (1-4/9-12), power take-off on (if applicable) air filters clogged, power steering oil level low, rear view mirrors heated (if applicable), ABS, trailer ABS (if applicable), main steering circuit failure, steering auxiliary circuit failure.



SERVICE DATA(I)

Engine oil sump and filters	28
Gearbox oil ZF16S2220TO/ZF16S2520TO:	13
Power steering oil	8,5
Cab tipping oil	1
Clutch circuit oil	0,5
Rear axle with final red. oil	16
Cooling system water	33
Diesel	300

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DEALER

Characteristics and equipment are subject to changes without prior notice.

Technical data and general specifications - validity to be checked according to each individual country